AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA"), and the Massachusetts Clean Water Act, as amended, (M.G.L. Chap. 21, §§26-53),

Massachusetts Maritime Academy

is authorized to discharge from a facility located at

Taylors Point
Bourne, MA 02532

to receiving water named Cape Cod Canal/Buzzards Bay

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit and the authorization to discharge expire at midnight, five years from the effective date.

The permit shall become effective (60) sixty days from the date of issuance.

This permit supersedes the permit issued on October 8, 1986.

This permit consists of 12 pages in Part I including effluent limitations, monitoring requirements etc., Attachment A, Marine Acute Toxicity Test Protocol and Procedures; Attachment B, Sludge Guidance; and 35 pages in Part II including General Conditions and Definitions.

Signed this 20th day of February, 2001

/Signature on file/

Linda M. Murphy, Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

Glenn Haas, Acting Assistant Commissioner
Bureau of Resource Protection
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from outfall serial number **001** (treated sanitary wastewater and untreated boiler water blow-down[11]) to the Cape Cod Canal.

   The permittee shall notify EPA and MA DEP that it intends to commence discharging from the completed upgraded treatment facility, at least 90 days prior to startup of the upgraded facility. The discharge to the Cape Cod Canal, thru Outfall 001, shall be limited and monitored by the permittee as specified below for the existing and upgraded facility (note fecal coliform limit).

Effluent Characteristics	Units	Discharge Limitations			Monitoring Requirements	
		Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Flow (annual average)	MGD	0.14	-------	Report	Continuous[1]	Recorder
BOD_5	mg/l	30	45	Report	1/week[2]	24-hr.comp[3]
TSS	mg/l	30	45	Report	1/week[2]	24-hr.comp[3]
Settleable Solids[4]	ml/l	----	----	Report	Daily	Grab
pH[4]		(See I.A.1.b.on page 6)			1/day	Grab
Fecal Coliform[4]	MPN/100 ml	100(existing fac.)	----	200	1/week	Grab
		14(upgraded fac.)	----	43	1/week	Grab
Total Residual Chlorine[9]	mg/l	----	----	1.0[14]	Daily (M-F)	Grab

Note: Effluent limits continued on next page.

1. (Outfall **001** effluent limits continued),

Effluent Characteristics	Units	Discharge Limitations			Monitoring Requirements	
		Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
TKN[7] (Total Kjeldahl Nitrogen)	mg/l	Report	--------	-------	1/Quarter	24-hr.comp[3]
Nitrate & Nitrite[7]	mg/l	Report	--------	-------	1/Quarter	24-hr.comp[3]
UV Intensity[8]	mw sec/cm^2	-------	-------	Report	Daily	Reading
Whole Effluent Toxicity Testing						
LC50[5]		----	----	$\geq$ 50%	2/year[6]	24-hr.comp[3]

Note: Effluent limits continued on next page

2. During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge from Outfall **002** (swimming pool discharge water) to the Cape Cod Canal. Discharges shall be conducted on the outgoing tide.

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristics	Units	Discharge Limitations			Monitoring Requirements	
	Average Monthly	Average Weekly	Maximum Daily		Measurement Frequency	Sample Type
Flow	GPD		10,000[10]		Monthly	Estimate
pH[4]		(See I.A.1.b.on page 6)			Monthly	Grab
Total Residual Chlorine[9]	mg/l	----	----	1.0	1/Month[13]	Grab
Total Copper	mg/l	----	----	0.5	Quarterly[13]	Grab

Note: Prior to discharge, the swimming pool water is treated with a new disinfection technology and is discharged to an area with complex hydrological and ecological interactions. Therefore the permitted requirements associated with this outfall may be modified during this permit term or changed when permit is reissued.

Footnotes:

1. For flow, report maximum and minimum daily rates and total flow for each operating date.

2. Sampling required for influent and effluent.

3. A 24-hour composite sample will consist of at least eight (8) flow weighted grab samples taken during one working day.

4. Settleable solids, pH and fecal coliform monitoring will be conducted year round. This is a State certification requirement. Fecal coliform grab samples will be taken at a time during the 2 hr. period of maximum diurnal flow. Settleable solids grab sampling will be taken during a time appropriate for the treatment process and are intended to assist the facility operator. Settleable solids sampling results are for reporting only.

5. The LC_{50} is the concentration of effluent which causes mortality to 50% of the test organisms. The "50% or >" limit is defined as a sample composed of at least 50% effluent, the remainder being dilution water.

6. The permittee shall conduct acute toxicity tests two times per year. The permittee shall test the species Mysidopsis bahia and the Inland Silverside (Menidia beryllina). Toxicity test samples shall be collected on the second week of June and December. Results are to be submitted by the 30th day of the month following the sampling, i.e. July and January. See Permit Attachment A, Toxicity Test Procedure and Protocol. After submitting two consecutive, acceptable toxicity testing results, demonstrating compliance with the permit limit, the permittee may submit to EPA and MADEP a written request for a modification of the requirements of toxicity testing. The permittee is required to continue testing at the frequency specified in the permit until notice is received by certified mail from the EPA that the frequency and/or number of species for toxicity testing has been changed.

7. The analytical testing method for TKN and Nitrate/Nitrite shall be by EPA standard method.

8. Provisions for this monitoring requirement have been included should the upgraded treatment facility include UV disinfection units. Also see Fact Sheet with draft permit for further clarification.

9. Total Residual Chlorine (TRC) shall be tested using the Amperometric Titration method, the DPD spectrophotometric, or the DPD titrimetric method for Outfall 001. These EPA approved methods are noted as method no. 4500-CL D, 4500-Cl G and 4500-Cl F, respectively and found in Standard Methods for the Examination of Water and Wastewater, 20th Edition, or the USEPA Manual of Methods Analysis of Water and Waste listed as EPA Method 330.1, 330.5 and 330.4. Total residual chlorine monitoring is required as long as the facility adds chlorine to the discharge. If the upgraded facility does not include chlorine for disinfection, and the facility is not adding chlorine for any other reasons, "no discharge" may be reported for total residual chlorine on the discharge monitoring report.

10. Approximately 10,000 gallons is to be discharged every 14 days as part of necessary swimming pool operation and maintenance. An additional 200,000 gallons of pool water is planned to be discharged over a 24 to 48 hour period every two years for cleaning and maintenance.

11. Flow of boiler water blowdown from Outfall 001 is estimated at 30 gallons every 60 days.

12. The permittee shall optimize the functioning of the installed Crystal Water System to minimize the discharge of chlorine from Outfall 002, while maintaining adequate disinfection within the swimming pool.

13. Once per week sampling to be conducted during filter backwash events or during other discharge events.

14. The permittee plans to install ultraviolet disinfection equipment and end the use of chlorine for operations associated with the wastewater treatment facility. The residual chlorine limit of 1.0 mg/l is allowed only until the UV system becomes fully operational. Subsequently any use of chlorine, and thereby the permitted limit for residual chlorine, will be for emergency use only.

Part I.A (continued)

a. The discharge shall not cause a violation of the water quality standards of the receiving waters.

b. The pH of the effluent shall not be less than 6.5 nor greater than 8.5 at any time, unless these values are exceeded due to natural causes or as a result of the approved treatment processes.

c. The discharge shall not cause objectionable discoloration of the receiving waters.

d. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.

e. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand. The percent removal shall be based on monthly average values**.**

f. When the effluent discharged for a period of 90 consecutive days exceeds 80 percent of the design flow, the permittee shall submit to the permitting authorities a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans.

g. The permittee shall minimize the use of chlorine while maintaining adequate bacterial control.

2. All WWTPs (wastewater treatment plants)) must provide adequate notice to the Director of the following:

    a. Any new introduction of pollutants into that WWTP from an indirect discharger in a primary industry category discharging process water and

b. Any substantial change in the volume or character of pollutants being introduced into that WWTP by a source introducing pollutants into the WWTP at the time of issuance of the permit.

c. For purposes of this paragraph, adequate notice shall include information on:
(1) the quantity and quality of effluent introduced into the WWTP; and
(2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the WWTP.

3. Prohibitions Concerning Interference and Pass-Through:

a. Pollutants introduced into WWTPs by a non-domestic source (user) shall not pass through the WWTP or interfere with the operation or performance of the works.

b. If, within 30 days after notice of an interference or pass through violation has been sent by EPA to the WWTP, and to persons or groups who have requested such notice, the WWTP fails to commence appropriate enforcement action to correct the violation, EPA may take appropriate enforcement action.

4. Toxics Control

a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.

b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standard.

5. Numerical Effluent Limitations for Toxicants

EPA or DEP may use the results of the toxicity tests and chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

6. The permittee shall submit a report to the EPA and the MADEP within 60 days from the day the upgraded treatment plant begins operation. The report shall describe the plant upgrades and status of the upgrades, the date of initiation of operation and discharge, and any substantial changes to the expected (design) volume or characteristics of pollutants introduced into the treatment works.

B. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from outfalls listed in Part I A.1. (001 and 002) of this permit. Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSO) are not authorized by this permit shall be reported in accordance with Section D.1.e. (1) of the General Requirements of this permit (Twenty-four hour reporting).

C. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the following terms and conditions:

1. Maintenance Staff

   The permittee shall provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit.

2. Alternate Power Source

   In order to maintain compliance with the terms and conditions of this permit, the permittee shall continue to provide an alternative power source with which to sufficiently operate its treatment works (as defined at 40 CFR §122.2).

3. Grease

   The permittee will install grease traps at grease sources to limit the amount of grease conveyed to the treatment facility and its impact on the treatment facility's operations.

4. Infiltration/Inflow

   The permittee shall evaluate excessive infiltration/inflow to the sewer system and take steps to eliminate any problem areas.. A summary report of all actions taken to minimize infiltration/inflow during the previous calendar year shall be submitted to EPA and the MA DEP by February 28th of each year. This report shall also include a graph of flows to the treatment plant during the year and an analysis of I/I trends (i.e is I/I being reduced). If there have been any unauthorized discharges from the collection system during the previous calendar year which were caused by inadequate sewer system capacity, the permittee shall also include in this report an evaluation of actions necessary to restore adequate capacity. The report shall also include discussion of significant impacts, if any, to the treatment process caused by Academy resident population fluctuations.

5. Chlorination System Report

   Within 3 months of the effective date of the permit, the permittee will submit a report documenting the effectiveness of the chlorination system. The report will specifically address how flow variability and chlorine demand variability affect compliance with the TRC and fecal coliform limits at all times. Sampling data shall be provided to support conclusions on how hourly and daily flow and chlorine demand variability affects permit compliance. The report will

include a description of the chlorination system and the methods for dosage control. The report will identify all changes necessary to ensure compliance with the TRC and fecal coliform limits at all times, including equipment modifications and upgrades, operational procedures (including calibration procedures and alarm/response procedures), and sampling protocols. The report will include a schedule for implementing all of the necessary changes. An annual report shall be submitted on February 28th of each year summarizing all exceedances of the TRC and fecal coliform effluent limits during the previous year, the estimated or measured fecal coliform and chlorine discharge levels during the exceedance, and measures taken to fix the problem and to prevent future occurrences. Upon completion of installation and start-up of the planned UV disinfection system, there will be no potential for TRC violations; however the annual report shall continue to be submitted with information on fecal coliform violations.

D. SLUDGE CONDITIONS

1. The permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices and with the CWA Section 405(d) technical standards.

2. The permittee shall comply with the more stringent of either the state or federal (40 CFR part 503), requirements.

3. The requirements and technical standards of 40CFR part 503 apply to facilities which perform one or more of the following use or disposal practices.

   a. Land application - the use of sewage sludge to condition or fertilize the soil

   b. Surface disposal - the placement of sewage sludge in a sludge only landfill

   c. Sewage sludge incineration in a sludge only incinerator

4. The 40 CFR part 503 conditions do not apply to facilities which place sludge within a municipal solid waste landfill. These conditions also do not apply to facilities which do not dispose of sewage sludge during the life of the permit but rather treat the sludge (lagoons- reed beds), or are otherwise excluded under 40 CFR 503.6.

5. The permittee shall use and comply with the attached compliance guidance document (see Attachment B) to determine appropriate conditions. Appropriate conditions contain the following elements.

   - General requirements
   - Pollutant limitations
   - Operational standards (pathogen reduction requirements and vector attraction reduction requirements)
   - Management practices
   - Record keeping
   - Monitoring
   - Reporting

   Depending upon the quality of material produced by a facility, all conditions may not apply to the facility.

6. The permittee shall monitor the pollutant concentrations, pathogen reduction and vector attraction reduction at the following frequency. This frequency is based upon the volume of sewage sludge generated at the facility in dry metric tons per year

less than 290	1/ year
290 to less than1500	1 /quarter
1500 to less than 15000	6 /year
15000 +	1 /month

7. The permittee shall sample the sewage sludge using the procedures detailed in 40 CFR 503.8.

8. The permittee shall submit an annual report containing the information specified in the guidance. Reports are due annually by February 28th. Reports shall be submitted to the address contained in the reporting section of the permit.

E. MONITORING AND REPORTING

1. Reporting

Monitoring results obtained during the previous month shall be summarized for each month and reported on separate Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the month following the effective date of the permit.

Signed and dated originals of these, and all other reports required herein, shall be submitted to the Director and the State at the following addresses:

Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

The State Agency is:

Massachusetts Department of Environmental Protection
Bureau of Resource Protection-Buzzards Bay Team
Southeast Regional Office
20 Riverside Drive
Lakeville, MA 02347

Signed and dated Discharge Monitoring Report Forms and toxicity test reports required by this permit shall also be submitted to the State at:

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

F. STATE PERMIT CONDITIONS

This Discharge Permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MA DEP pursuant to M.G.L. Chap.21, §43.

Each Agency shall have the independent right to enforce the terms and conditions of this Permit. Any modification, suspension or revocation of this Permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this Permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this Permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as an NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this Permit is declared invalid, illegal or otherwise issued in violation of Federal law, this Permit shall remain in full force and effect under State law as a Permit issued by the Commonwealth of Massachusetts.